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Original Article

Oral health services in long-term care facilities between 1989 and 2003 – Has Germany seen any progress?

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Abstract

Background: In view of the growing number of people requiring long-term nursing care the problem of dental care in long-term care facilities (LTCF) remains an open issue. The aim of this study was to find out whether and how dental care in LTCF has changed over a period of 14 years.

Methods: Data on the standard of dental care provided in LTCF in Berlin collected from directors of these homes in 1989 (n=85) and 2003 (n=54) were compared.

Results: In 1989 72 % and in 2003 66 % of the elderly residents being newly admitted did not receive a dental entrance examination. In 2003 one nursing service requested prior dental hygienic measures as a requirement for admittance whereas in 1989 this was not required by a single nursing centre (p=0.125). In 1989 a dentist was available on call in 16 % of LTCF increasing to 78 % in 2003 (p=0.000). In 1989 yearly and half-yearly dental examinations were carried out in 11 % of LTCF increasing to 28 % (p=0.000) in 2003. No routine dental examinations were performed in 31 % (1989) and in 39 % (2003) of LTCF. In 1989 27 % of the respondents classified dental care as being good, in 2003 half of the surveyed home directors expressed this opinion (p=0.0018).

Conclusion: In spite of some parameter having improved, the study shows that dental care in LTCF continues to be deficient and that awareness of directors of the homes, as a necessary prerequisite for any improvement, is still lacking.

Key Words

dental care for aged, health services research, nursing homes, quality of health care, vulnerable populations

Introduction

Society is getting older[1]. The number of one-generation households is increasing, which means that more elderly people have to be self-sufficient and, if they become ill, are cared for in a long-term care facility[2]. These changes in the age distribution of our society and the increasing numbers of people who retain their own teeth in old age[3-5] due to successful life-long prophylaxis have led to more academic research focusing on studies of the dental and oral health of residents in long-term care. National studies have shown that dental care in long-term care facilities is often poorly organised[6-10], leading to deficiencies in the oral health of the elderly people and a greater need for professional dental treatment[7,11,12]. It has also been found that routine dental examinations[9,13-15] are rarely carried out in long-term care facilities and that the examinations that dentists do perform are normally complaint-orientated[9,10,16-19]. Decreasing self-reliance accompanying old age[20] increases the need for regular professional oral health care. Given the increasing number of people requiring care in society, the problem of dental provision in long-term care facilities is a topic of current concern.

Methods

This paper compares data on professional dental care provided in long-term care facilities in Berlin. The first set of data originates from a survey on professional dental care in long-term care facilities (n=85) from 1989[8]and the second set from a study of home directors' evaluation of professional dental care from 2003, carried out as part of the study 'Gesund im Alter- auch im Mund' (Good health in old age means oral health too). In October 1989, questionnaires were sent to all 189 long-term care facilities registered in (West) Berlin, 85 of which (49 %) could be included in the analysis.

The 'Good health in old age means oral health too' research project of 2003 was initiated by the Department of Prosthodontics and Materials Science at Leipzig University, the

Charlottenburg District Authority in Berlin, the Geriatric Medicine Research Group of the Charité Evangelical Geriatric Medicine Centre at the Humboldt University, Berlin and the Institute for Statistics and Information Processing at the Freie Universität, Berlin. The study consisted of two sections. The first section involved using interviews and standardised questionnaires to compile data on the dentists and staff (home directors, care managers and care staff) of home-care and residential care facilities. The second section involved interviews and examinations of the elderly people receiving care in these care facilities. Out of the 342 long-term care facilities that existed in Berlin in 2003 (of which 41.8 % were privately owned, 51.5 % were run by independent, non-profit organisations, 6.5 % were public facilities), 54 care facilities were selected. Selection was random, weighted according to the Berlin district, facility type and type of provider (public, private etc.).

Questioning of the subjects and survey instruments

The data of the first study was compiled in the fourth quarter of 1989 using standardised questionnaires sent by post. Home directors were asked for general information about the facility (provider type, number of residents, age of residents, number of care staff, ratio of women to men, number of bed-ridden residents, average length of residency) and about admission policies (whether there was a minimum age, if a medical/dental certificate was required, whether dental rehabilitation was required before admission). The questions also covered whether there were routine dental examinations, how the residents made use of dental care services, whether there was a consultant dentist and if the facility had a dental treatment room. The home directors were also asked to evaluate the professional dental care provided at their own facility.

For the second study Berlin home directors were questioned between March 2001 and February 2003. After sending letters to the care facilities outlining the purpose of the study

and making clear that participation was voluntary, the facilities were then contacted by telephone to arrange an interview. The data was collected using a standardised questionnaire with a mixture of open, semi-open and closed questions. The questionnaire was made up of three sections (A, B, C). Section A asked for general information about the facility, admission policies and general information about care staff. This section was only answered by the home directors. Part B was devoted to the care workers'/home directors' awareness of dental problems, assessing their level of knowledge on dental problems and their prevention. In the final section, questions were asked concerning the training of care workers in dental and oral hygiene, any training sessions, the level of interest in professional dental training, the assessment of residents' oral health and questions about the utilisation of dental care services.

In accordance with the institutional review board standard procedures, the regulations of the study protocol assuring absolute confidentiality of all participants interviewed and protection of privacy during analysis of questionnaires, were explained to all participants in writing before receiving the consent of the subjects.

Statistical analysis

The data from the study 'Dental care in homes for the elderly and aged - Organization and opinion of home management' by Nitschke und Hopfenmüller (*'Zur zahnmedizinischen Betreuung im Seniorenheim- Organisation und Beurteilung durch die Heimleitungen'*) was taken from the German Journal of Stomatology (*'Deutsche Stomatologische Zeitschrift'*)[8]. The data from the 'Good health in old age means oral health too' project was evaluated using a computer program (SPSS 10.0 for Windows). In 2003, the study participants were grouped according to their role: 'home director', 'care manager', 'home and care manager', 'care & nursing staff'. If participants had more than one role (e.g. home director and care manager), these were combined in the 'home and care manager' group. In order to compare the two

studies the data was filtered in the statistics program SPSS 12.0 with respect to the participants' role by the criteria ‘home director’ and ‘home and care manager’. As the questionnaires from 1989 and 2003 were not identical, comparable questions were selected first. The selected data from both studies was compared and statistically analysed using the statistics computer program (SPSS 12.0 for Windows).

Results

New admissions to long-term care facilities

In 1989, 7 % of long-term care facilities had a minimum age for admission. None of the institutions imposed an income limit in 1989. In 2003, however, there was a minimum age limit in 12 % of the homes along with an income limit in one home. The minimum age was 55 in one of the homes, 60 in four homes and 65 in two homes. On average, seven (0-70) new admissions per year were recorded in 1989, in 2003 the figure was 45 (2-180).

In 1989, a medical examination on admission was mandatory in 24 % of long-term care facilities, in 2003 this number doubled to almost half of all homes questioned. A medical certificate alone was sufficient for two thirds of homes in 1989; in 2003 this was down to 43 %. In 1989 and 2003, 4 % of the facilities carried out occasional medical admission examinations. In 1989 one home carried out no medical examinations, in 2003 this was the case for three homes (chi-square contingency test, p=0.0005).

In 1989, in 23 % of the long-term care facilities questioned newly admitted elderly people were given a dental inspection, in 6 % of these cases this was done by a doctor as part of the admission examination, in 10 % by the care staff and only in 7 % of homes did the residents see the consultant dentist. However, in 2003 a dental inspection before admission was mandatory in 13.2 % of cases, and in a further 13.2 % this was occasionally the case. In 84 %

of cases this was carried out by the consultant dentist, in one home the care staff were responsible for this and in another the doctor carried out this task as part of the admission examination. In another home the task was assigned to a dentist from the local health authority. In 5 % (1989) and 6 % (2003) of cases a dentist's certificate was required. Almost three quarters of long-term care facilities (72 %) did not check the dental health of new admissions. In 2003, the home residents were not subject to a dental inspection before admission in 66 % of the facilities questioned either. The two studies show no significant difference in the dental inspection of new admissions (chi-square contingency test, p=0.77). In 1989, no long-term care facility asked for dental rehabilitation before admission. In 2003, this was a requirement in two of the 54 long-term care facilities. This difference is not statistically significant (chi-square contingency test, p=0.125).

Professional dental care in long-term care facilities

In 1989, 16 % of the home directors stated that they used the services of a consultant dentist for dental treatment of their residents. In 2003, a consultant dentist serviced 78 % of the homes questioned (chi-square contingency test, p=0.000). The number of dental treatment rooms had not changed during the 14-year period. In both 1989 and 2003, there was a dental treatment room in only 6 % of the long-term care facilities. Half of these, however, were only suitable for dealing with emergencies. No significant differences are present (chi-square contingency test, p=0.76). The frequency of dentists visiting residents for routine dental examinations or inspection of dentures as per home directors responses are presented in Table 1. In 31 % of cases no routine dental examinations had been performed by a dentist on the premises in 1989. In 2003 regular semi-annually routine dental examinations, performed by a dentist, took place in 17 % of the long-term care facilities. In 11 % of the homes there were annual routine dental examinations. However, it was found that there were still no routine

dental examinations at all in 39 % of the homes. The difference between the studies is significant (chi-square contingency test, p=0.000).

Alongside the above-mentioned routine dental examinations, the dentist visited a home if there was an emergency (Table 2). From 1989 to 2003 the rate of monthly emergency visits increased from 7 % to 22 % while the rate of 'less than once every two months' decreased from 44 % to 24 % (chi-square contingency test, p=0.000). One third (33 %) of the home directors were not aware how often such visits took place. In 1989, 27 % of the home directors rated the professional dental care as 'good', 54 % classified it as 'satisfactory' and almost a quarter of home directors (19 %) judged it 'unsatisfactory'. In 2003, home directors valued the professional dental care significantly more positively than in 1989 (chi-square contingency test, p=0.001). Half of the home directors questioned rated the dental care as 'good', 37 % as 'satisfactory' and 9 % as 'unsatisfactory'. 4 % were unable to give a rating.

Discussion

The comparison of data from two different studies has its limitations. In 1989 a response rate of 49 % was achieved in a survey applying a questionnaire. This can be regarded as representative even though a bias is likely towards facilities with an increased interest in oral health of residents returning more questionnaires than those not sensitised to oral health needs. The later study included an extensive clinical component covering a much increased number of facilities. For capacity reasons a random procedure adjusted for several variables was applied to obtain a representative sample of facilities. As they are self-reported, reporting bias in both sets of data may have lead to a rather more optimistic view of realities. Even though the sampling approaches differed, both sets of data can be compared as they are both representative and subject to a similar bias.

A routine dental examination as part of every new admission was being called for as early as 1989[21]. It is vital that a dentist assesses the oral health of a resident on admission into a home, considering the effects that poor oral health can have on the organism[22-24]. This is the only way to diagnose any problem that needs to be treated and to form a foundation for subsequent regular dental examinations. Yet even in 2003 in the majority of cases there is still no dental examination on admission. National and international studies[13,19,25] show similar negative findings. This indicates a lack of attention paid to professional dental care in long-term care facilities. There is a need for home directors to take action, especially considering that with increasing age people are increasingly likely to ignore problems, which actually need to be treated[26]. Dental rehabilitation of the person to be cared for, if possible before admission into the institution, was being recommended as early as 1986[27]. Nitschke and Hopfenmüller[8] justified this with the fact that at the time of admission the health status of the resident would often still allow for dental rehabilitation.

Providing the necessary medical care and support for elderly people within the institution itself is generally straightforward. Having a dental treatment unit on the premises would lead to a fundamental improvement in professional dental care. People needing care would be more willing to make use of professional dental services if they did not have to undergo the journey to the surgery and the possible waiting times. It would be possible for a consultant dentist to provide efficient, quality-orientated treatment. However, in both 1989 and 2003 only 6 % of homes questioned provided a dental treatment room. A comparison with other studies, including international ones, shows similar findings[13-15,19,25,28]. One might argue, that in the absence of dedicated treatment space, dentists would hardly become more willing to provide treatment outside their surgery to improve the unsatisfactory dental care of the elderly[18,29,30]. For a quality-orientated long-term care facility it is important that consultancy agreements are made with doctors and dentists. This would ensure that residents could make

use of dental services not just for complaints but also for routine preventive oral health care if illness prevented them from seeing their usual dentist. In the 14 years, the uptake of consultant dentists' services changed highly significantly. In 2003, 78 % of home directors questioned had access to a consultant dentist. This seemingly positive finding is put into perspective, however, by the fact that the number of routine visits by dentists (regular dental examinations in 28 % of cases) and the number of dental admission examinations in the institution (in 13.2 % of cases this was mandatory, in 13.2 % it took place occasionally) did not increase by the same degree. Ilgner[31] also found in his studies of the structure of professional dental care in long-term care facilities in Saxony that dental treatment often involved no more than emergency treatment. The same problem is described in international research as well[16,18,19]. There are many different reasons why consultant dentists, despite their appropriate training, are losing sight of elderly people requiring care and only providing dental treatment in emergency cases. Along with the frequent lack of technical equipment there is also the question of remuneration. Chalmers et al.[18] established that with fixed fee-per-item remuneration systems consultant dentists receive very little payment per unit of time due to the increased length of treatment-time in a long-term care facility. This factor might explain why dentists do not find it ‘interesting’ enough to provide treatment in a retirement home. Most would prefer to treat the residents in their surgery[32]. For this reason it is worth considering whether the public health authorities could employ specially trained dentists for the elderly whose task it would be to provide care for retirement home residents.

Mandatory health insurance introduced by Bismarck in Germany has essentially not changed during the study period. It covers the vast majority of the population and includes all diagnostic and restorative dental procedures with members’ contributions to costs of prosthodontic treatment. Members with a low income receive full coverage for prosthodontics as well. Personal income is therefore not a barrier to access dental care. Public policies during

the study period saw the introduction of a mandatory insurance scheme to cover the risk of long-term nursing care. In case of need a monthly lump sum is provided in three tiers depending on functional impairment with no specific reference to oral health. This scheme therefore has no direct influence on oral health care for residents.

Numerous studies have shown that elderly people living in care facilities tend to make use of dental services in emergencies only and tend not to have their oral health regularly checked[33-35]. To increase home residents' awareness of routine dental examinations and to encourage their use, the consequences of not utilising dental services should be explained to them[36]. Attention should be drawn to the public health authorities in this context, which should make a point of explaining the importance of oral health to all people in need of care. It is no longer appropriate to target public oral health services only to children and young people but to include older people as well.

Chalmers et al.[18] have shown that having teeth influences the number of regular routine dental examinations. Many home directors think that if residents do not have their own teeth then they have no need to use dental services. This is, however, highly questionable as the possibility of malignant transformations in the oropharynx increases with age and these can only be detected by a dentist at an early stage. Also, following the provision of a dental prosthesis the fit of the prosthesis must be continuously monitored and adjusted due to the inevitable atrophy of the jawbone. All in all there is a significant discrepancy between the opinions of home directors and the findings of studies of professional dental care. This discrepancy could explain why deficiencies such as the lack of dental admission examinations and the lack of regular monitoring of oral health of the elderly still persist. Home directors are the deciding factor when it comes to the organisation of dental care provision. If they do not recognise these problems then the situation cannot change/improve in the future either. Wirz et al.[13] were able to show that only 6.1 % of the home directors questioned thought that

regular examinations by a dentist were essential. Johnson and Lange[37] reported that 40 % of home directors questioned were satisfied with the dental care provided. Pyle et al.[38] reported that 63.4 % of home directors were satisfied with the dental care in their facilities, although 49 % of home directors rated the oral health of their residents as moderate to poor. These studies highlight the lack of awareness of dental problems amongst home directors.

Conclusion

In spite of some significant improvements the study shows that dental care in long-term care facilities still displays major deficiencies even 14 years on. Home directors' awareness of dental problems continues to be insufficient. In order for dental care in long-term care facilities to improve, home directors would need intensive training with respect to the advantages of structured professional dental care.

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Table 1. Numbers of routine dental examinations in long-term care facilities

Numbers of routine dental examinations	Long-term care facilities 1989		Long-term care facilities 2003	
	[n]	[%]	[n]	[%]
Semi-annually	8	9,0	9	16,7
Annually	2	2,0	6	11,1
By request	49	58,0	3	5,6
Never	26	31,0	21	38,9
Unknown	-	-	15	27,7
Total	85	100	54	100

Table 2. Frequency of dental emergency treatment in long-term care facilities

Frequency of dental emergency treatment	Long-term care facilities 1989		Long-term care facilities 2003	
	[n]	[%]	[n]	[%]
Daily	-	-	1	1,9
Once a week	2	2	1	1,9
Biweekly	-	-	3	5,6
Once a month	6	7	12	22,2
Once every two months	9	11	4	7,4
< Once every two months	37	44	13	24,1
Unknown	-	-	18	33,3
Never	31	36	2	3,7
Total	85	100	54	100